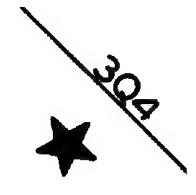


3Q4



POWER AMPLIFIER PENTODE

MINIATURE TYPE

Filament	Coated		
Filament Arrangement	*Series**	*Parallel**	
Voltage	2.8	1.4	d-c volts
Current	0.05	0.1	amp.
Maximum Overall Length			2-1/8"
Maximum Seated Height			1-7/8"
Maximum Diameter			3/4"
Bulb			T-5-1/2
Base ▲			Miniature Button 7-Pin

Pin 1 - Fil. (-series)
Pin 2 - Plate
Pin 3 - Grid
Pin 4 - Screen
Pin 5 - Filament Mid-Tap (-parallel)
Pin 6 - Plate
Pin 7 - Filament+

BOTTOM VIEW (7BA)

Mounting Position: Any

AMPLIFIER

Filament Arrangement	*Series**	*Parallel**	
Plate Voltage	90 max.	90 max.	volts
Screen Voltage	90 max.	90 max.	volts
Total Cathode Current	6# max.	12 max.	ma.

Typical Operation and Characteristics - Class A_1 Amplifier:

Plate Voltage	90	85	90	volts
Screen Voltage	90	85	90	volts
Grid Voltage	-4.5	-5	-4.5	volts
Peak A-F Grid Volt.	4.5	5	4.5	volts
Zero-Sig. Plate Cur.	7.7	6.9	9.5	ma.
Zero-Sig. Screen Cur.	1.7	1.5	2.1	ma.
Plate Res. (approx.)	0.12	0.12	0.1	megohm
Transconductance	2000	1975	2150	μmhos
Load Resistance	10000	10000	10000	ohms
Total Harmonic Dist.	7	10	7	%
Max.-Sig. Power Output	0.24	0.25	0.27	watt

* For series filament arrangement, filament voltage is applied between pins No.1 and No.7. The grid voltage is referred to pin No.1.
For parallel filament arrangement, filament voltage is applied between pin No.5 and pins No.1 and No.7 connected together. The grid voltage is referred to pin No.5.

\# For each 1.4-volt filament section. For series operation of the sections, a shunting resistor must be connected across the section between pins No.1 and No.5 to by-pass any cathode current in this section which is in excess of the rated maximum per section. When other tubes in a series-filament arrangement contribute to the filament current of the 3Q4, an additional shunting resistor may be required between pins No.1 and No.7.

▲ *The center hole in sockets designed for this base provides for the possibility that this tube type may be manufactured with the exhaust-tube tip at the base end. For this reason, it is recommended that in equipment employing this tube type, no material be permitted to obstruct the socket hole.*

May 1, 1941 — TENTATIVE DATA

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.





3Q4

AVERAGE PLATE CHARACTERISTICS

E_f = 1.4 VOLTS D.C. SCREEN VOLTS = 90
PARALLEL FILAMENT ARRANGEMENT

CONTROL-GRID VOLTS E_{c1} = −4.5

E_{c1} = 0, −1.5, −3.0, −4.5, −6.0, −7.5, −9.0, −10.5

I_b

I_{c2} (E_{c1} = 0, −4.5)

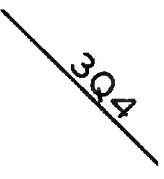
PLATE VOLTS: 0, 25, 50, 75, 100, 125, 150, 175, 200

PLATE (I_b) OR SCREEN (I_{c2}) MILLIAMPERES: 25, 20, 15, 10, 5, 0

APR. 22, 1941 92C-6255R1

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY





3Q4

OPERATION CHARACTERISTICS

E_f=1.4 VOLTS D.C.   CONTROL-GRID VOLTS=−4.5
PLATE VOLTS=90   SCREEN VOLTS=90
PARALLEL FILAMENT ARRANGEMENT

POWER OUTPUT

DISTORTION

POWER OUTPUT-MILLIWATTS: 300, 250, 200, 150, 100, 50

TOTAL HARMONIC DISTORTION-PER CENT: 20, 15, 10, 5

0 5000 10000 15000 20000

LOAD RESISTANCE -OHMS

MAY 7, 1941

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92C-6281